

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: METALUX

Report Number: P390604

Luminaire Tested: **22CZ2-70VHE-HRP-UNV-L940-CD1-SWPD1-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P390604  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-70VHE-HRP-UNV-L940-CD1-SWPD1-U  
Description: 2x2 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5024.9 lumens  
Efficiency: N/A  
Efficacy: 99.9 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

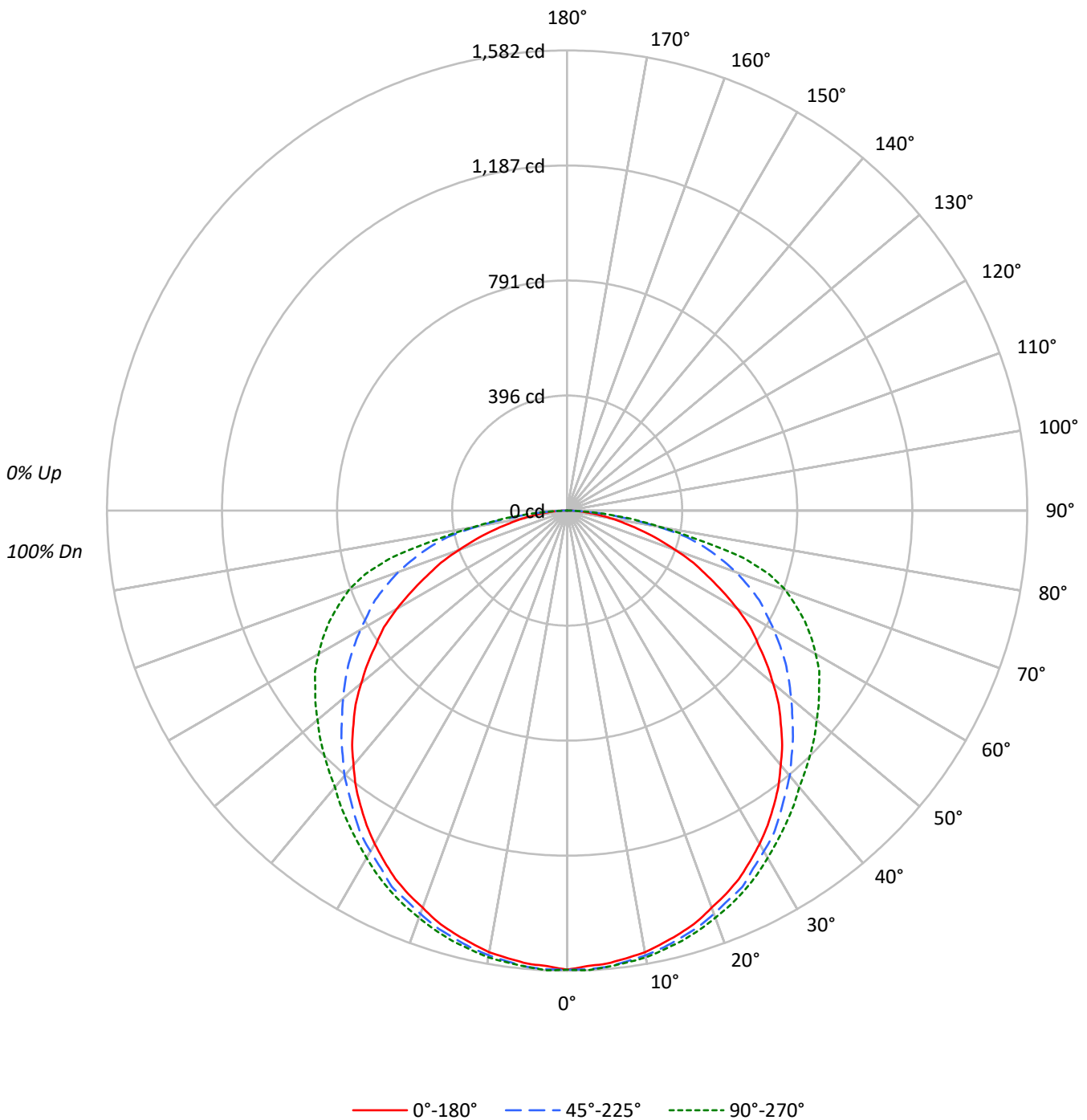
Input Watts (W): 50.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P390604

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L940-CD1-SWPD1-U

### Luminous Intensity Polar Plot





TEST NUMBER: P390604

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L940-CD1-SWPD1-U

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4247	4247	4247
5°	4224	4254	4254
10°	4212	4242	4262
15°	4191	4233	4264
20°	4160	4224	4266
25°	4149	4237	4280
30°	4112	4204	4284
35°	4068	4189	4311
40°	4012	4181	4363
45°	3953	4178	4502
50°	3869	4209	4689
55°	3763	4301	4960
60°	3641	4416	5312
65°	3389	4637	5743
70°	3112	4857	6282
75°	2729	5111	6495
80°	2349	4869	5098
85°	2053	3538	3881



TEST NUMBER: P390604

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L940-CD1-SWPD1-U

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.3	3.0
10°-20°	428.7	8.5
20°-30°	654.0	13.0
30°-40°	798.6	15.9
40°-50°	853.9	17.0
50°-60°	824.2	16.4
60°-70°	709.5	14.1
70°-80°	480.0	9.6
80°-90°	126.7	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1232.0	24.5
0°-40°	2030.6	40.4
0°-60°	3708.7	73.8
0°-90°	5024.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5024.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1578	1578	1578	1578	1578	
5°	1564	1567	1575	1575	1575	148
15°	1504	1508	1519	1527	1530	424
25°	1397	1405	1427	1434	1442	643
35°	1238	1249	1275	1301	1312	775
45°	1039	1057	1098	1153	1183	802
55°	802	828	917	1009	1057	719
65°	532	584	728	843	902	529
75°	262	348	492	591	625	282
85°	66	92	115	118	126	75
90°	0	0	0	0	0	



TEST NUMBER: P390604

CATALOG NUMBER: 22CZ2-70VHE-HRP-UNV-L940-CD1-SWPD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1578.4	1578.4	1578.4	1578.4	1578.4
2.5°	1567.3	1571.0	1578.4	1578.4	1582.1
5°	1563.6	1567.3	1574.7	1574.7	1574.7
7.5°	1552.5	1556.2	1563.6	1567.3	1567.3
10°	1541.4	1545.1	1552.5	1556.2	1559.9
12.5°	1523.0	1526.7	1537.7	1545.1	1545.1
15°	1504.5	1508.2	1519.3	1526.7	1530.4
17.5°	1482.3	1489.7	1500.8	1508.2	1511.9
20°	1452.7	1460.1	1474.9	1486.0	1489.7
22.5°	1426.9	1434.2	1449.0	1460.1	1467.5
25°	1397.3	1404.7	1426.9	1434.2	1441.6
27.5°	1360.3	1367.7	1386.2	1401.0	1412.1
30°	1323.3	1330.7	1352.9	1371.4	1378.8
32.5°	1282.7	1293.8	1319.7	1334.4	1345.5
35°	1238.3	1249.4	1275.3	1301.2	1312.3
37.5°	1194.0	1205.1	1230.9	1264.2	1279.0
40°	1142.2	1157.0	1190.3	1234.6	1242.0
42.5°	1094.2	1112.6	1142.2	1194.0	1212.5
45°	1038.7	1057.2	1097.9	1153.3	1182.9
47.5°	987.0	1005.4	1049.8	1116.3	1153.3
50°	924.1	950.0	1005.4	1083.1	1120.0
52.5°	865.0	887.2	961.1	1046.1	1090.5
55°	802.1	828.0	916.7	1009.1	1057.2
57.5°	746.7	768.9	868.7	972.2	1027.6
60°	676.5	706.0	820.6	931.5	987.0
62.5°	602.5	646.9	772.6	887.2	946.3
65°	532.3	584.0	728.2	842.8	901.9
67.5°	469.5	524.9	672.8	794.7	850.2
70°	395.5	465.8	617.3	735.6	798.4
72.5°	329.0	406.6	554.5	672.8	728.2
75°	262.5	347.5	491.6	591.4	624.7
77.5°	203.3	284.6	421.4	451.0	454.7
80°	151.6	225.5	314.2	317.9	329.0
82.5°	103.5	158.9	203.3	221.8	225.5
85°	66.5	92.4	114.6	118.3	125.7
87.5°	29.6	33.3	40.7	37.0	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)